



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

| | | | |
|---|--|--|--|
| (51) International Patent Classification ⁷ : H04N 7/173 | | A1 | (11) International Publication Number: WO 00/52935 |
| | | | (43) International Publication Date: 8 September 2000 (08.09.00) |
| (21) International Application Number: PCT/US00/05436 | | (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). | |
| (22) International Filing Date: 2 March 2000 (02.03.00) | | | |
| (30) Priority Data: 09/260,036 2 March 1999 (02.03.99) US | | | |
| (71) Applicant (for all designated States except US): COMUNIC T.V. LTD. [IL/IL]; Dobnov Street 22, 64369 Tel Aviv (IL). | | | |
| (71) Applicant (for TJ only): FRIEDMAN, Mark, M. [US/IL]; Alharizi Street 1, 43406 Raanana (IL). | | | |
| (72) Inventors; and | | | |
| (75) Inventors/Applicants (for US only): GOFMAN, Yossef [IL/IL]; Dobnov St. 22, 64369 Tel Aviv (IL). LEVI, Yossef [IL/IL]; Hapodim St. 25, 52566 Ramat Gan (IL). YARDEN-ZASLAVSKY, Ofer [IL/IL]; 308, 42855 Moshav Olesh (IL). GUTTMAN, Menachem [IL/IL]; Hayarden Street 2B, 43100 Raanana (IL). BEREDJIK, Avraham [IL/IL]; Ein Gedy Street 4, 53307 Givatayim (IL). | | | |
| (74) Agent: FRIEDMAN, Mark, M.; c/o Castorina, Anthony, 2001 Jefferson Davis Highway, Suite 207, Arlington, VA 22202 (US). | | | |

Published

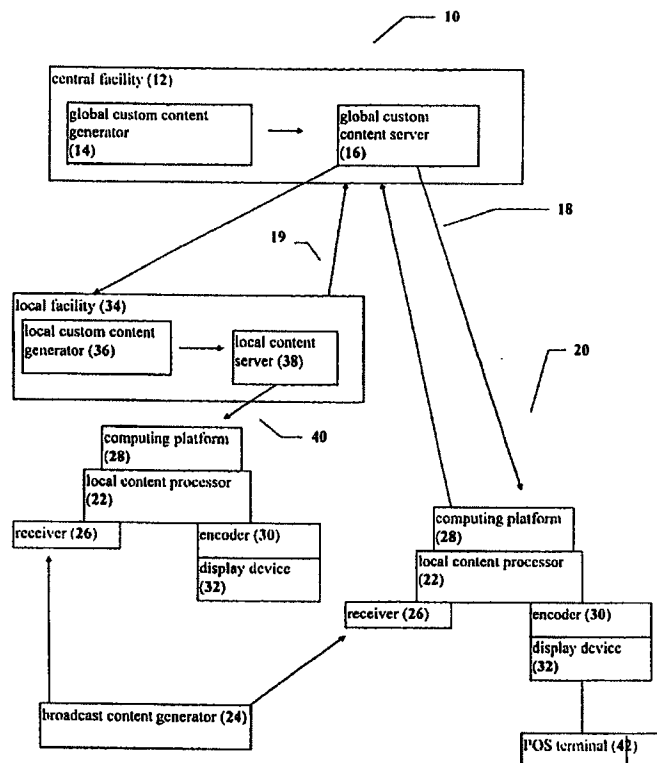
With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: SYSTEM AND METHOD FOR SERVING LOCAL AND GLOBAL MEDIA CONTENT

(57) Abstract

A system (10) and a method for combining broadcast media content with additional content at a local site (20) according to at least one locally determined characteristic of the audience to which the combined content is served. The format of the added content, including the layout and the type of content, is optionally variable, but is preferably adjusted according to at least one characteristic of the audience. The broadcast media and additional contents are combined by the local site, preferably according to a template, and then displayed to the audience at the local site. Preferably the template contains information concerning the type of data objects to be displayed, and their size and location on the display, as well as the timing of display and transition to their display, such that the template describes how to process and display the data. Also preferably, the added content can be specifically determined for small audiences.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

| | | | | | | | |
|----|--------------------------|----|--|----|--|----|--------------------------|
| AL | Albania | ES | Spain | LS | Lesotho | SI | Slovenia |
| AM | Armenia | FI | Finland | LT | Lithuania | SK | Slovakia |
| AT | Austria | FR | France | LU | Luxembourg | SN | Senegal |
| AU | Australia | GA | Gabon | LV | Latvia | SZ | Swaziland |
| AZ | Azerbaijan | GB | United Kingdom | MC | Monaco | TD | Chad |
| BA | Bosnia and Herzegovina | GE | Georgia | MD | Republic of Moldova | TG | Togo |
| BB | Barbados | GH | Ghana | MG | Madagascar | TJ | Tajikistan |
| BE | Belgium | GN | Guinea | MK | The former Yugoslav Republic of Macedonia | TM | Turkmenistan |
| BF | Burkina Faso | GR | Greece | | | TR | Turkey |
| BG | Bulgaria | HU | Hungary | ML | Mali | TT | Trinidad and Tobago |
| BJ | Benin | IE | Ireland | MN | Mongolia | UA | Ukraine |
| BR | Brazil | IL | Israel | MR | Mauritania | UG | Uganda |
| BY | Belarus | IS | Iceland | MW | Malawi | US | United States of America |
| CA | Canada | IT | Italy | MX | Mexico | UZ | Uzbekistan |
| CF | Central African Republic | JP | Japan | NE | Niger | VN | Viet Nam |
| CG | Congo | KE | Kenya | NL | Netherlands | YU | Yugoslavia |
| CH | Switzerland | KG | Kyrgyzstan | NO | Norway | ZW | Zimbabwe |
| CI | Côte d'Ivoire | KP | Democratic People's Republic of Korea | NZ | New Zealand | | |
| CM | Cameroon | | | PL | Poland | | |
| CN | China | KR | Republic of Korea | PT | Portugal | | |
| CU | Cuba | KZ | Kazakhstan | RO | Romania | | |
| CZ | Czech Republic | LC | Saint Lucia | RU | Russian Federation | | |
| DE | Germany | LI | Liechtenstein | SD | Sudan | | |
| DK | Denmark | LK | Sri Lanka | SE | Sweden | | |
| EE | Estonia | LR | Liberia | SG | Singapore | | |

SYSTEM AND METHOD FOR SERVING LOCAL AND
GLOBAL MEDIA CONTENT

FIELD AND BACKGROUND OF THE INVENTION

The present invention relates to a system for combining broadcast media with another
5 source of content for serving to an audience according to at least one characteristic of that
audience, and in particular, for such a system and method which provides specific
advertisements to the audience in combination with the broadcast media.

Broadcast media, such as television and radio broadcasts, and streaming audio and
streaming video data, can be served to a number of receivers, which could include a computer
10 with a monitor screen for example. Since such media can be served through a network by a
central server, the possibility exists to personalize the media content for an audience with at least
one characteristic determined according to location and/or time. For example, the media content
could be adjusted for viewers in the office of a physician, those waiting in an airport, bus station
or train station, or in a government office, or patients in a hospital. The content could be further
15 adjusted according to different segments of the viewers. For example, the combined media
content could feature a children's program for the office of a pediatrician, more mature content
for those viewers waiting in a government office, and a mixture of different types of content for
airports, bus or train stations. Such adjustments to the content could even include different types
of advertisements, thereby enabling the system to both entertain audience members and to
20 generate advertising revenues.

However, altering the broadcast media content separately for such small audiences is
tedious and inefficient, since currently such alterations must be performed on the broadcast
media itself. Thus, the ability to adjust broadcast media for different audiences has not been
fully realized.

25 One attempted solution to this problem is provided through WebTV Plus Service
(WebTV Networks, Inc.; <http://webtv.com> as of January 16, 2000). However, WebTV only
customizes content for individual users through a particular device, such that customization is
based upon user interaction rather than upon the location of the display device.

Another attempted solution which provides only advertisements to local audiences is the
30 Ebillboard™ device of NGN.com (<http://www.ngn.com/home.htm> as of January 16, 2000). This
device provides location dependent advertising but cannot provide other types of content, such
as video data for example, and as such is merely a more sophisticated type of billboard.

Therefore, there is an unmet need for, and it would be highly useful to have, a system and a method for combining broadcast media content with content adjusted for an audience according to at least one characteristic of the audience, such as the location of the audience, the purpose of the audience at that location, the time at which the combined content is served to the audience and other characteristics of the audience, such that the combined media content could be altered for viewing by small, select audiences, for example in order to display selected advertisements.

SUMMARY OF THE INVENTION

The present invention is of a system and a method for combining broadcast media content with additional content at a local site according to at least one locally determined characteristic of the audience to which the combined content is served. Hereinafter, the term "broadcast media" refers to any publicly available content which is passively received through some type of reception mechanism. The different types of broadcast media content encompassed within the present invention include, but are not limited to, television and radio broadcasts, streaming audio and streaming video data, computer generated broadcast data, data provided through a media player such as a videotape player, a DVD (digital video disc) player, an audiotape player, and a compact disk (CD) player, and broadcast data available through any other transmission mechanism such as the Internet or an intranet, or any other type of network.

The format of the added content, including the layout and the type of content, is optionally variable, but is preferably adjusted according to at least one characteristic of the audience. The broadcast media and additional contents are combined by the local site, preferably according to a template, and then displayed to the audience at the local site. Preferably, the template contains at least information concerning what data objects are displayed, when these objects are displayed and how these objects are displayed.

For example, the template preferably includes information with regard to the type of data objects to be displayed, and their size and location on the display, as well the timing of display and transition to, or effects on, their display, such that the template describes how to process and display the data. Also preferably, the added content includes an advertisement. Thus, the added content can be specifically determined for small audiences, such as patients waiting in the office of a physician, travellers waiting in a train station, bus station or airport, or shoppers at a supermarket for example.

According to the present invention, there is provided a method for combining broadcast

media content and added content into combined content according to a locally determined characteristic of an audience, the steps of the method comprising: (a) providing a central distribution facility having a global server for serving at least a portion of the added content; (b) providing a local site for displaying the combined content to the audience; (c) connecting the local site to the global server; (d) sending the at least a portion of the added content from the global server to the local site; (e) receiving the at least a portion of the added content by the local site according to the locally determined characteristic of the audience; (f) receiving the broadcast media content by the local site; (g) combining the at least a portion of the added content and the broadcast media content by the local site to form the combined content; and (h) displaying the combined content to the audience on a display device.

According to another embodiment of the present invention, there is provided a system for combining broadcast media content and added content into combined content according to a locally determined characteristic of an audience, the system comprising: (a) a central distribution facility including: (i) an added content generator for storing the added content; and (ii) a global server for serving the added content; (b) a local site for receiving the added content from the global server according to the locally determined characteristic of the audience and for receiving the broadcast media content, and for combining the broadcast media content and the added content to form the combined content; and (c) a display device connected to the local site for receiving the combined content and for displaying the combined content to the audience.

According to yet another embodiment of the present invention, there is provided a method for combining broadcast media content and added content into combined content according to a locally determined characteristic of an audience, the steps of the method comprising: (a) providing a central distribution facility having a global server for serving at least a portion of the added content; (b) providing a local site for displaying the combined content to the audience; (c) connecting the local site to the global server; (d) constructing an advertising campaign, the campaign including an advertisement as the portion of the added content sent from the global server; (e) selecting at least one local site for displaying the advertisement for the campaign according to the locally determined characteristic of the audience; (f) sending the advertisement to the at least one local site; (g) receiving the advertisement by the local site; (h) receiving the broadcast media content by the local site; (i) combining the advertisement and the broadcast media content by the local site to form the combined content; and (j) displaying the combined content to the audience on a display device.

Hereinafter, the term "audience" includes one or more individuals present at a particular

location in a particular environment during a particular period of time.

Hereinafter, the term "display device" also includes a storage device for storing the data for later display, as well as a television display screen with at least one speaker, a display screen or one or more speakers separately, as well as any other type of device for displaying any type of media.

Hereinafter, the term "product" includes both physical products and services (tangible and intangible products), as well as ideas and concepts.

Hereinafter, the term "network" refers to a connection between any two or more computational devices which permits the transmission of data.

Hereinafter, the term "computational device" includes, but is not limited to, personal computers (PC) having an operating system such as DOS, Windows™, OS/2™ or Linux; Macintosh™ computers: computers having JAVA™-OS as the operating system; graphical workstations such as the computers of Sun Microsystems™ and Silicon Graphics™, and other computers having some version of the UNIX operating system such as AIX™ or SOLARIS™ of Sun Microsystems™; or any other known and available operating system, or any device, including but not limited to: laptops, hand-held computers, enhanced cellular telephones, wearable computers of any sort, which can be connected to a network as previously defined and which have an operating system. Hereinafter, the term "Windows™" includes but is not limited to Windows95™, Windows 3.x™ in which "x" is an integer such as "1", Windows NT™, Windows98™, Windows CE™, Windows2000™, and any upgraded versions of these operating systems by Microsoft Corp. (USA).

For the present invention, a software application could be written in substantially any suitable programming language, which could easily be selected by one of ordinary skill in the art. The programming language chosen should be compatible with the computational device according to which the software application is executed. Examples of suitable programming languages include, but are not limited to, C, C++ and Java.

In addition, the present invention could be implemented as software, firmware or hardware, or as a combination thereof. For any of these implementations, the functional steps performed by the method could be described as a plurality of instructions performed by a data processor.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is herein described, by way of example only, with reference to the accompanying drawings, wherein:

FIG. 1 is a schematic block diagram illustrating an exemplary system according to the present invention;

FIG. 2 is a flowchart illustrating an exemplary method according to the present invention; and

FIGS. 3A and 3B are schematic block diagrams of another embodiment of the present invention, for providing the combined broadcast content at a local television set in a private home.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is of a system and a method for combining broadcast media content with additional content at a local site according to at least one locally determined characteristic of the audience to which the combined content is served. The different types of broadcast media content encompassed within the present invention include, but are not limited to, television and radio broadcasts, streaming audio and streaming video data, computer generated broadcast data, data provided through a media player such as a videotape player, a DVD (digital video disc) player, an audiotape player, and a compact disk (CD) player, and broadcast data available through any other transmission mechanism such as the Internet or an intranet. The format of the added content, including the layout and the type of content, is optionally variable, but is preferably adjusted according to at least one characteristic of the audience. The broadcast media and additional contents are combined by the local site, preferably according to a template, and then displayed to the audience at the local site.

Preferably, the template contains information concerning the type of data objects to be displayed, and their size and location on the display, as well the timing of display and transition to their display, such that the template describes how to process and display the data. Also preferably, the added content includes an advertisement. Thus, the added content can be specifically determined for small audiences, such as patients waiting in the office of a physician, travellers waiting in a train station, bus station or airport, or shoppers at a supermarket for example.

According to preferred embodiments of the present invention, a plurality of local sites are controlled by a central server. One or more central servers can be connected to a main server.

The main server can then optionally act as an "ad portal" for advertisements, such that advertisements may be purchased through the main server operating the "ad portal" for display on the plurality of local sites. The advertisements are optionally and more preferably purchased through the main server at any location through the Internet. The advertisements may optionally
5 include different types of media, such as still images, text, video and audio data, and a combination thereof. Such purchases may even optionally be performed internationally, such that advertisements are preferably displayed on local sites in a plurality of different countries. Alternatively, advertisements may be selected and displayed at particular local sites according to the particular characteristics of these sites and the audience at those sites.

10 The "ad portal" is not limited to the system described herein, but may optionally collect other kinds of advertising media while enhancing variety in an advertising campaign.

The advertisements are more preferably purchased as part of a campaign, which may optionally be at least partially suggested by the portal based on stored histories of other executed campaigns. Most preferably, the system suggests a campaign to the requesting user according to
15 an analysis of the budget and preferences of the requesting user. A "real time" or near real time advertising campaign can optionally and preferably be purchased and run internationally using the "ad portal".

According to another preferred embodiment of the present invention, the local site preferably includes stand alone point-of-sale (POS) terminal, through which the viewer may
20 optionally purchase one or more products which are advertised at the local site. More preferably, the product or products are sold at a discount through the POS terminal, or according to some other incentive offer for purchase. The POS terminal optionally and more preferably includes a swipe card reader for accepting the details of the credit card of the viewer.

The principles and operation of the system and method according to the present invention
25 may be better understood with reference to the drawings and the accompanying description.

Referring now to the drawings, Figure 1 is a schematic block diagram illustrating an exemplary overall system according to the present invention for combining broadcast media content and added content according to at least one characteristic of the audience for the combined content. For the purposes of illustration only and without intending to be limiting, the
30 following description centers upon video content for the broadcast media content, it being understood that other types of media content could be substituted by one of ordinary skill in the art.

A system 10 features a central content distribution facility 12 for distributing global

custom content. The term "global custom content" refers to customized content which is distributed to a plurality of individual receiving sites, as described in greater detail below. Central content distribution facility 12 could be implemented as one or more computers connected through a network, for example.

5 Central content distribution facility 12 preferably controls and determines the usage policy through templates and supplies the necessary software, firmware or hardware tools to program these templates. Central content distribution facility 12 features a global custom content generator 14 and a global content server 16. Global custom content generator 14 generates the global customized content.

10 The global custom content is then passed to global content server 16, which serves the global custom content. Global custom content server 16 could be implemented as a computer, such as a PC computer, which is connected to a network 18 through any standard network connection. The standard network connection for global custom content server 16 could be wired or wireless, just as network 18 could be either a wired or wireless network.

15 Network 18 could be any type of network for connecting computers, including but not limited to, a WAN (wide area network), a LAN (local area network), a peer-to-peer network (PTP), a cable network, a wireless network or the POTS (plain old telephone system) network. The type of standard network connection would therefore depend upon the type of network 18. For example, for a LAN, global custom content server 16 could be connected through an
20 Ethernet card. For the POTS network, global custom content server 16 could be connected through a dial-up modem for example. Other examples of implementations could easily be determined by one of ordinary skill in the art.

 Global custom content server 16 serves the global custom content through network 18 to a local site 20. Local site 20 receives publicly available broadcast media content and combines
25 the broadcast media content with the global custom content to form combined content which is then served to an audience. The different types of broadcast media content encompassed within the present invention include, but are not limited to, television and radio broadcasts, streaming audio and streaming video data, computer generated broadcast data, data provided through a media player such as a videotape player, a DVD (digital video disc) player, an audiotape player.
30 and a compact disk (CD) player, and broadcast data available through any other transmission mechanism such as the Internet or an intranet.

 The added content is preferably adjusted according to at least one characteristic of the audience at local site 20. For example, the at least one characteristic could be determined

according to the particular location of local site **20**, the purpose of the audience at that location, the composition of the audience at that location, the time at which the combined content is being served to the audience, and the environment of that location, or a combination thereof. More preferably, an uplink channel **19** connects local site **20** to central content distribution facility **12** for receiving such information about the local environment as the temperature in that environment and the type of broadcast media content being viewed at that location. The type of broadcast media content could be determined according to a particular television channel being received by local site **20**, for example. Thus, uplink channel **19** preferably enables location and environment specific information to be sent to central content distribution facility **12**.

For example, local site **20** could be a supermarket. In this example, the audience members are shoppers at the supermarket, such that the at least one characteristic could be related to the purpose of the supermarket, which is shopping for food and other grocery items; the composition of the audience, which could include parents with children and so forth; and the time at which the combined content is being broadcast, which could also determine the composition of the audience. For example, children are more likely to be present in the supermarket in the morning rather than late at night.

As another example, local site **20** could be the office of a physician. In this example, the audience members are patients of the physician, such that the at least one characteristic of the audience could be an interest in health issues. In either example, the added content is preferably tailored to the characteristic or characteristics of the audience, such that the shoppers might be served added content which is related to cooking, while the patients might be served added content which is related to health care.

According to a preferred embodiment of the present invention, the added content includes an advertisement. This advertisement is preferably adjusted according to the at least one characteristic of the audience, such that different audiences may receive different advertisements. The format of the added content is optionally variable, such that the added content could include text, static graphics, animated graphics, video stream data, audio stream data, or any other kind of computer formatted data for these types of content. Thus, both the format and the identity of the added content is preferably variable, more preferably according to the at least one characteristic of the audience of the combined content.

According to preferred embodiments of the present invention, although the advertisements are preferably added locally to the content being displayed at local site **20**, the advertisements are purchased for a plurality of local sites **20** through a main facility **13**. Main

facility 13 can then optionally act as an "ad portal" for advertisements, such that advertisements may be purchased through main facility 13 for display on the plurality of local sites. The advertisements may optionally include different types of media, such as still images, text, video and audio data, and a combination thereof. Such purchases may even optionally be performed
5 internationally, such that advertisements are preferably displayed on local sites 20 in a plurality of different countries. Alternatively, advertisements may be selected and displayed at particular local sites 20 according to the particular characteristics of these local sites 20.

The advertisements are more preferably purchased as part of a campaign, which may optionally be at least partially determined according to stored histories of other executed
10 campaigns. Also more preferably, main facility 13 enables a "real time" or near real time advertising campaign to be purchased and run internationally. Most preferably, main facility 13 suggests a campaign to the requesting user according to an analysis of the budget and preferences of the requesting user.

According to the present invention, there are two different embodiments for local site 20.
15 According to the first embodiment, local site 20 features a local content processor 22 for receiving both the global custom content from global custom content server 16 and the broadcast media content from a broadcast content generator 24. Local content processor 22 then combines the global custom content and the broadcast media content to form the combined content, which is then displayed to the audience. Hereinafter, the term "display" includes visible
20 display, audible display or a combination thereof.

Preferably, local content processor 22 includes a broadcast media receiver 26 for receiving the broadcast media content from broadcast content generator 24. For example, broadcast media receiver 26 could be a television tuner connected to a video capturing device. The television broadcast signals would then be converted to video signals by the video
25 capturing device. The video signals would then be converted to a digital stream of data.

Local content processor 22 also includes a computing platform 28 for operating at least one software module. For example, the software module could include a software object, optionally available as part of the Windows™ operating system, which captures the digital stream data. The captured data from the publicly available broadcast content is then processed
30 as at least one data object. The global custom content is also processed as at least one data object. These different data objects are then combined to form the combined content.

One example of a method for forming the combined content is through an added software layer, operated by computing platform 28. The added software layer preferably alters each type

of data object. for example to alter the size and location of the object in the final display. The data object is then added to a mixture of such objects, preferably at a particular time, to form the combined content. More preferably, such a mixture of objects is prepared and determined according to a template. Optionally and preferably, the template is received from global custom content server **16**.

The template preferably determines the identity of each data object, how the object is to be displayed, preferably including the size and location of that object in the final display, and when the object is to be displayed. The template is more preferably described in terms of a language which is then read by a parser software module. The parser software module then invokes a library of functions, preferably of JavaScript™ functions, in order to prepare and mix the data objects. Thus, the template minimizes the amount of data related to the display of the data objects which is sent by global custom content server **16** to local site **20**.

The mixture of data objects is then preferably arranged by a client software module, such as a JavaScript™-enabled ActiveX™ control, which is able to manipulate data objects with mixed formats. The client software module then sends the data as a digital stream for display. Preferably, this digital stream is then captured by an encoder **30**. Encoder **30** then translates the digital stream into a video format.

The video format is then received by, such that the combined content is then displayed to the audience through, a passive display device **32**. For the display of the video format, passive display device is preferably a television display screen with at least one speaker. However, passive display device **32** could be a display screen or one or more speakers separately for example. Audio data could be similarly processed and displayed as described above for the video data.

A second embodiment for local site **20** according to the present invention is a local content distribution facility **34**. Local content distribution facility **34** receives the global custom content from global custom content server **16** through network **18**. Local content distribution facility **34** then adds local custom content generated by a local custom content generator **36**. This local custom content is served by a local custom content server **38**, with the global custom content, to local content processor **22** through a local network **40**, such as a LAN (local access network) for example. Local content processor **22** contains all of the features as described above. In addition, for this embodiment of the present invention, local content processor **22** adds the local custom content as one or more data objects to form part of the added content which is mixed with the broadcast media content to form the combined content. For example, the local

custom content could be a message directed to a particular member of the audience by name. Thus, for the second, preferred embodiment of the present invention, completely locally generated, customized content is added to the broadcast media content and the global custom content to form the combined content.

5 According to other preferred embodiments of the present invention, local site **20** optionally features a point-of-sale (POS) terminal **42**, through which the viewer in the audience may optionally purchase one or more products which are advertised at local site **20**. More preferably, the product or products are sold at a discount through POS terminal **42**, or according to some other incentive offer for purchase. POS terminal **42** optionally and more preferably
10 includes a swipe card reader for accepting the details of the credit card of the viewer.

Figure 2 shows a flowchart of an exemplary method according to the present invention for combining publicly available broadcast media content with added content and then for displaying the combined content. Although this method is described with regard to video data, it is understood that the method could also be applied to audio data.

15 In step 1, the global customized content, as the added content, is acquired and stored in a centralized database in the central distribution facility. The global customized content is preferably adjusted according to at least one characteristic of the audience, which preferably includes but is not limited to a demographic characteristic, the time of the display, a characteristic of the location of the audience (such as office of a physician, supermarket and so
20 forth), a characteristic of the environment of the location such as the temperature, and the purpose of the audience at that location (such as shopping, receiving health care and so forth). In step 2, preferably the template for displaying the combined added content, such as the global customized content, and broadcast media content is also stored in the central distribution facility. More preferably, there are multiple such templates stored in the central distribution facility and
25 most preferably in the global custom content generator.

In step 3, the local site, as either a local content distribution facility or a local content processor, connects to the global server. Optionally, this connection is performed upon demand, although alternatively the connection could be performed at a predetermined connection time, or even a constant connection.

30 Once the connection has been established, in step 4 the global content server relays the appropriate global customized content to the local content distribution facility or to the local content processor. Preferably, this step of receiving the global customized content includes the step of receiving the template for displaying the combined added content and broadcast media

content. More preferably, each local site is able to receive a particular combination of customized content and a template, such that the local content is most preferably customized for that local site. For example, each local site could have a separate identification number or other identifier, such that the local custom content is customized according to this identifier.

5 Optionally and preferably, in step 5, the local content server of the local content distribution facility serves the local customized content to the local content processor. The local content is preferably adjusted according to at least one characteristic of the audience, which preferably includes but is not limited to a demographic characteristic, time of the display, a characteristic of the location of the audience (such as office of a physician, supermarket and so
10 forth), a characteristic of the environment at that location, and the purpose of the audience at that location (such as shopping, such that an audio or visual message is sent to all shoppers; receiving health care and so forth).

 In step 6, preferably the local content processor and/or the local content distribution facility sends information concerning the previously received content to the global server. The
15 requested information is determined according to the template. For example, this information could include statistics about displayed data objects, or about such factors as the temperature and the type of broadcast media content received by the local site, which are readily measurable by the local site.

 In step 7, preferably a synchronization mechanism is performed through the system to
20 synchronize the computers in the system, including but not limited to the global content server, the local content server and the computing platform associated with the local content processor.

 In step 8, the local content processor receives and processes the broadcast media content as previously described, in order to form data in a suitable format to be combined with the global customized content.

25 In step 9, the local content processor combines at least the global customized content and the broadcast media content, preferably according to the template. More preferably, additionally the local content processor combines the local customized content with the global customized content and the broadcast media content. Next, the local content processor displays the combined content on a display device, preferably according to the strict rules specified in the
30 template, in step 10. In step 11, the local content processor gathers the requested statistics, and any other requested information, according to the request or requests in the template as described with regard to step 6.

 Figures 3A and 3B are schematic block diagrams of another embodiment of the present

invention, for providing the combined broadcast content at a local television set in a private home. In this embodiment, the television set is connected to a television broadcast medium, such as cable or a satellite link, through a receiver unit. The television set receives both the broadcast content and the custom content through the receiver unit, which then assembles the content into a single signal for display by the television set.

As shown in both Figures 3A and 3B, a system 44 features central facility 12 and main facility 13, as for Figure 1. Central facility 12 and main facility 13 are not shown in detail here. System 44 also features a local site 46, which includes a display device 48, such as a television set for example, and a receiver unit 50. Receiver unit 50, central facility 12 and main facility 13 are all connected to a network 52, which could be cable or a satellite link, for example.

The operation of system 44 with regard to central facility 12 and main facility 13 is similar to the previously described implementation. Receiver unit 50 receives both local content and global broadcast content through network 52. The local content is preferably adjusted according to the characteristics of the viewer at that particular display device 48. For example, in a private home, a first television set could be located in the living room, where the entire family may watch it; a second television set could be located in a child's room, where only the child may watch it; and a third television set could be located in the parent's room, where only the parents may watch it. Therefore, the location of each display device 48 could be used to determine the type of local content which should be displayed.

The mechanism for receiving the local content at receiver unit 50 may optionally be implemented in a variety of ways. According to a first implementation, as shown in Figure 3A, receiver unit 50 is connected to a second communication channel 54 for receiving the local content. Such a second communication channel 54 could be a telephone line, whether PSTN (Public Switched Telephone Network) or wireless, for a cellular telephone, for example. Second communication channel 54 could also be a LAN (local area network) or WAN (wide area network), for example.

According to a second and more preferred implementation, as shown in Figure 3B, receiver unit 50 is only connected to network 52. However, receiver unit 50 either includes two separate receivers 56 for actually receiving two separate signals from network 52 as shown, or alternatively only includes a single receiver 56. For the latter implementation, the local content could optionally be sent on a separate part of the signal, for example on the portion of the signal which is used for sending teletext signals. In this case, single receiver 56 preferably includes a demodulator (not shown) for separating the two different types of signals from the local content

and the global content. Alternatively, the local content is downloaded at a predetermined time when display device 48 is not being operated, such as after midnight, for example.

For either implementation of Figures 3A or 3B, receiver unit 50 could optionally receive only special local content which is intended for that particular display device 48. Alternatively
5 and preferably, receiver unit 50 could receive local content which is broadcast to a plurality of receiver units 50. Receiver unit 50 would then include instructions for determining which local content should be displayed, for example according to keywords. For example, receiver unit 50 could store the local content on a hard disk or other storage medium (not shown), and then analyze the local content in order to determine which such content is suitable for that particular
10 local site 46. The advantage of broadcasting the local content is the ease of transmitting such content to a plurality of receiver units 50.

Also, for either implementation of Figures 3A or 3B, the viewer of display device 48 could be rewarded for receiving the local content by reduced payment for viewing the broadcast, or even by receiving a free or reduced cost display device 48. The "ad portal" embodiment,
15 previously described with regard to Figure 1, could also be implemented with system 44, for purchasing advertisements at a variety of local sites 46.

While the invention has been described with respect to a limited number of embodiments, it will be appreciated that many variations, modifications and other applications of
20 the invention may be made.

WHAT IS CLAIMED IS:

1. A method for combining broadcast media content and added content into combined content according to a locally determined characteristic of an audience, the steps of the method comprising:
 - (a) providing a central distribution facility having a global server for serving at least a portion of the added content;
 - (b) providing a local site for displaying the combined content to the audience;
 - (c) connecting said local site to said global server;
 - (d) sending said at least a portion of the added content from said global server to said local site;
 - (e) receiving said at least a portion of the added content by said local site according to the locally determined characteristic of the audience;
 - (f) receiving the broadcast media content by the local site;
 - (g) combining said at least a portion of the added content and the broadcast media content by said local site to form the combined content; and
 - (h) displaying the combined content to the audience on a display device.
2. The method of claim 1, wherein the step of connecting said local site to said global server is performed according to a protocol selected from the group consisting of an on-demand connection, a constant connection, and a connection only at a predetermined connection time.
3. The method of claim 2, wherein said local site includes a local content processor for receiving the broadcast media content and said at least a portion of the added content, for combining the broadcast media content and said at least a portion of the added content to form the combined content and for displaying the combined content on said display device.
4. The method of claim 2, wherein said local site includes:
 - (i) a local content server for serving local customized content; and
 - (ii) a local content processor for receiving the broadcast media content, said local customized content and said at least a portion of the added content, for combining the broadcast media content, said local customized content and said at least a

portion of the added content to form the combined content and for displaying the combined content on said display device.

5. The method of claim 1, wherein the at least one locally determined characteristic of the audience is selected from the group consisting of a demographic characteristic, a time for displaying the combined content, a characteristic of a location of the audience, a characteristic of an environment at said location and a purpose of the audience at said location.

6. The method of claim 1, wherein the step of combining said at least a portion of the added content and the broadcast media content by said local site further includes the step of receiving a template for determining how said at least a portion of the added content is combined with the broadcast media content.

7. The method of claim 6, wherein said template includes a selection of the broadcast media content and a selection of said at least a portion of the added content for combining to form the added content.

8. The method of claim 7, wherein said template determines a timing for displaying said selection of the broadcast media content and said selection of said at least a portion of the added content.

9. The method of claim 8, wherein said template includes a layout for displaying the combined content and a transmission/viewing script for controlling a frequency of display for the combined content and an appropriate mixture of the broadcast media content and said at least a portion of the added content.

10. The method of claim 9, wherein said template includes a request for at least one type of information from said local site.

11. The method of claim 10, wherein said at least one type of information includes at least one statistic, and said local content site gathers said at least one statistic according to said template.

12. The method of claim 10, wherein said local content site sends said at least one statistic to said central distribution facility.
13. The method of claim 1, wherein said central distribution facility and said local site perform a synchronization mechanism to synchronize said global server and said local site.
14. The method of claim 1, wherein said display device is a video display device.
15. The method of claim 1, wherein said display device is an audio display device.
16. The method of claim 1, wherein said display device is a storage device.
17. The method of claim 1, wherein step (d) further comprises the steps of:
 - (i) constructing an advertising campaign, said campaign including an advertisement as said portion of the added content sent from said global server;
 - (ii) selecting at least one local site for displaying said advertisement for said campaign; and
 - (iii) sending said advertisement to said at least one local site.
18. The method of claim 17, wherein said advertising campaign is constructed at a main facility, said main facility being connected to said global server through the Internet.
19. The method of claim 1, wherein said local site is located in a private home, such that the broadcast media content is a television broadcast and such that the added content is an advertisement.
20. The method of claim 19, wherein a user at said private home receives at least a reduced rate for said television broadcast.
21. The method of claim 19, wherein said local site receives advertisements intended for a plurality of local sites, but selects at least one advertisement based on the locally determined characteristic of the audience in step (e).

22. A system for combining broadcast media content and added content into combined content according to a locally determined characteristic of an audience, the system comprising:

- (a) a central distribution facility including:
 - (i) an added content generator for generating the added content; and
 - (ii) a global server for serving the added content;
- (b) a local site for receiving the added content from said global server according to the locally determined characteristic of the audience and for receiving the broadcast media content, and for combining the broadcast media content and the added content to form the combined content; and
- (c) a display device connected to said local site for receiving the combined content and for displaying the combined content to the audience.

23. The system of claim 22, wherein said display device is a video display device.

24. The system of claim 22, wherein said display device is an audio display device.

25. The system of claim 22, wherein said display device is a storage device.

26. The system of claim 22, wherein said central distribution facility further includes:

- (iii) a template for determining at least a layout of the added content and the broadcast media content in the combined content.

27. The system of claim 26, wherein said template further determines an appropriate mixture of the added content and the broadcast media content for combining in the combined content.

28. The system of claim 26, wherein said template further determines a frequency of display for the added content and the broadcast content in the combined content.

29. The system of claim 26, further comprising:

- (d) an uplink channel for transmitting from said local site to said central distribution facility;

wherein said template determines information for transmitting from said local site to said central distribution facility.

30. The system of claim 23, wherein said local site further comprises:
- (i) a local content server for serving local customized content; and
 - (ii) a local content processor for receiving the broadcast media content, said local customized content and at least a portion of the added content, for combining the broadcast media content, said local customized content and said at least a portion of the added content to form the combined content and for displaying the combined content on said display device.

31. The system of claim 23, wherein the added content includes advertising for a product, the system further comprising:

- (d) a point-of-sale (POS) terminal for purchasing at least one product advertised in said advertising, said POS terminal accepting payment details from a user in the audience for purchasing said at least one product.

32. The system of claim 23, wherein the added content includes an advertisement, said advertisement being purchased for a plurality of local sites through said central distribution facility.

33. The system of claim 23, further comprising:

- (d) a first network, wherein said local site is connected to said central distribution facility through said first network;

and wherein said local site further comprises a receiver unit for receiving both the broadcast media content and the added content, the broadcast media content being a television broadcast, said receiver unit being connected to said first network.

34. The system of claim 33, further comprising:

- (e) a second network, wherein said receiver unit is also connected to said second network, such that the added content is sent through said second network.

35. The system of claim 33, wherein said receiver unit further comprises two

receivers for receiving both the television broadcast and the added content through said first network.

36. The system of claim 33, wherein said receiver unit further comprises a single receiver for receiving both the television broadcast and the added content through said first network, such that a signal transmitted through said single receiver is divided into portions, with a first portion for receiving the television broadcast and a second portion for receiving the added content.

37. The system of claim 36, wherein said portions are sent to said single receiver at different times.

38. A method for combining broadcast media content and added content into combined content according to a locally determined characteristic of an audience, the steps of the method comprising:

- (a) providing a central distribution facility having a global server for serving at least a portion of the added content;
- (b) providing a local site for displaying the combined content to the audience;
- (c) connecting said local site to said global server;
- (d) constructing an advertising campaign, said campaign including an advertisement as said portion of the added content sent from said global server;
- (e) selecting at least one local site for displaying said advertisement for said campaign according to the locally determined characteristic of the audience;
- (f) sending said advertisement to said at least one local site;
- (g) receiving said advertisement by said local site;
- (h) receiving the broadcast media content by the local site;
- (i) combining said advertisement and the broadcast media content by said local site to form the combined content; and
- (j) displaying the combined content to the audience on a display device.

39. The method of claim 38, wherein said advertising campaign is constructed at a main facility, said main facility being connected to said global server through the Internet.

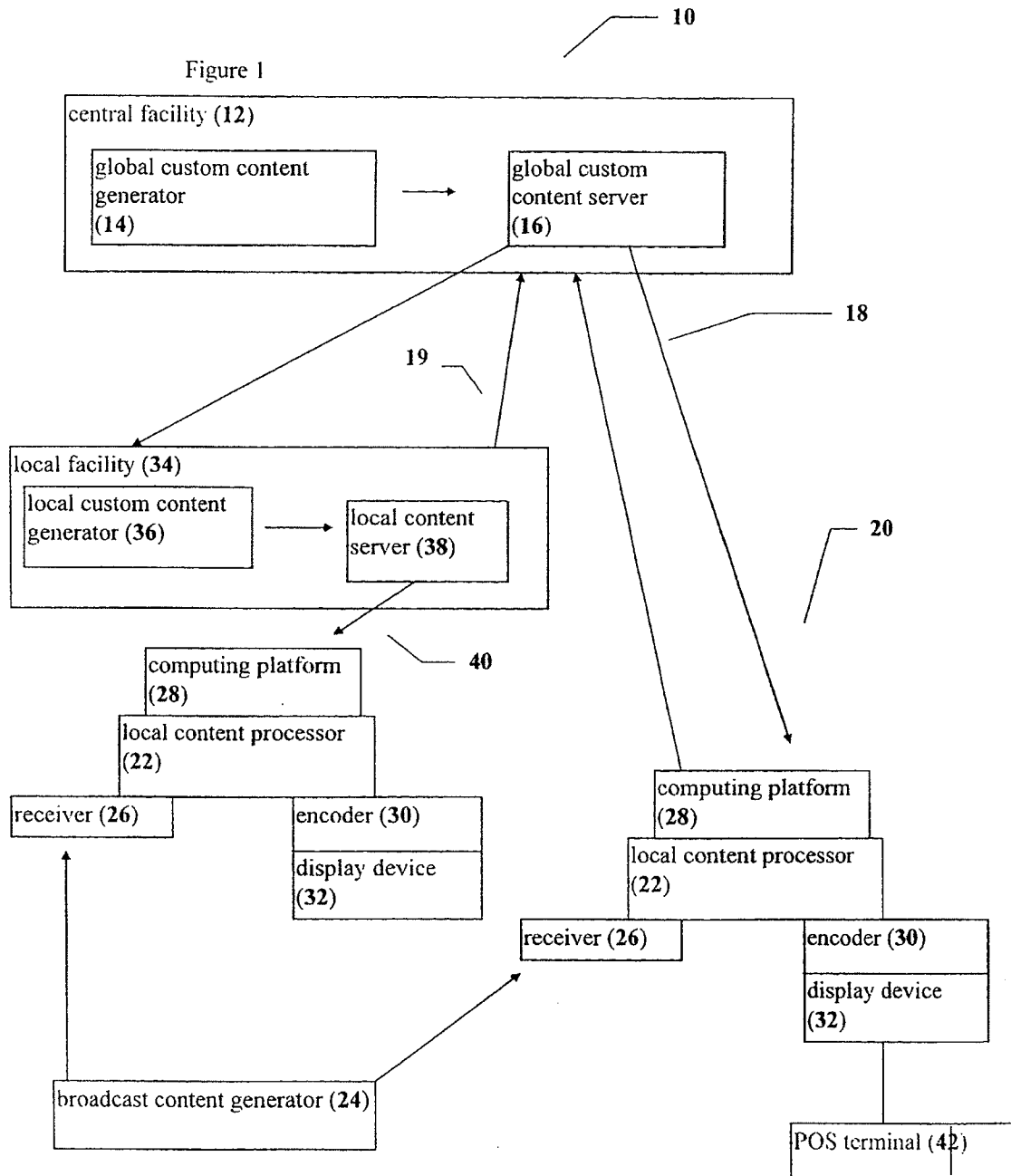


Figure 2

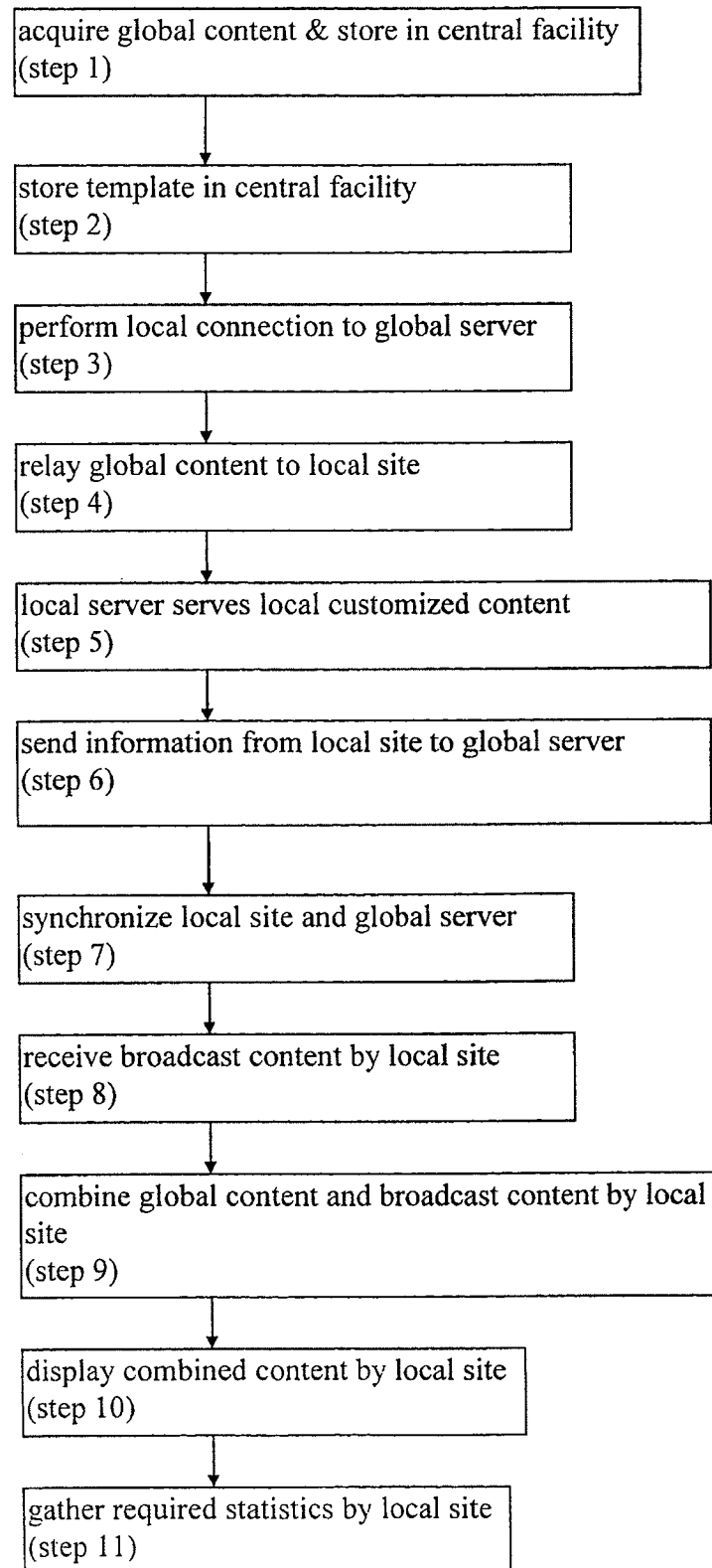


Figure 3A

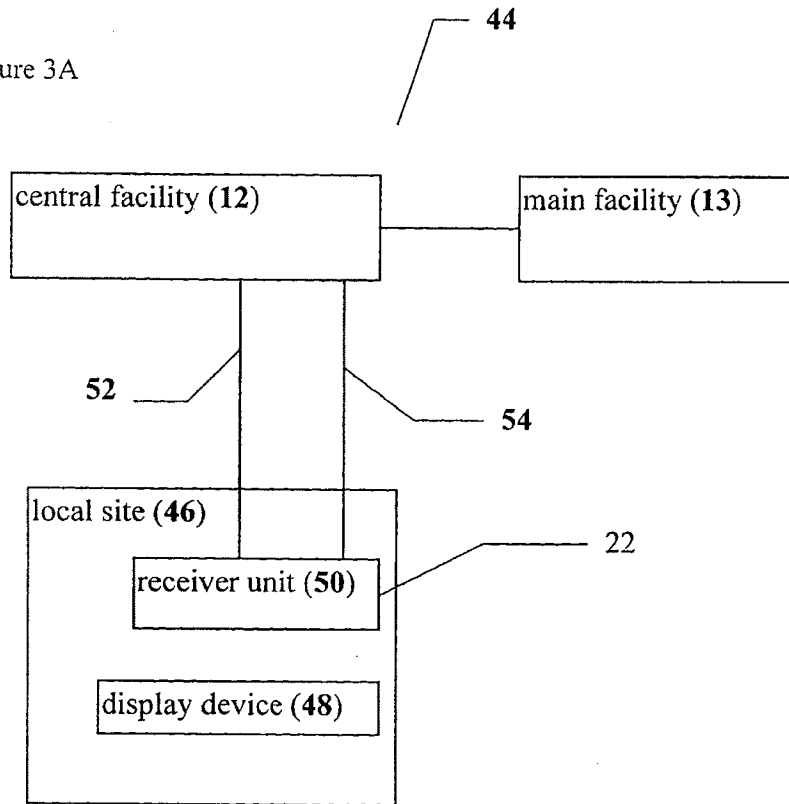
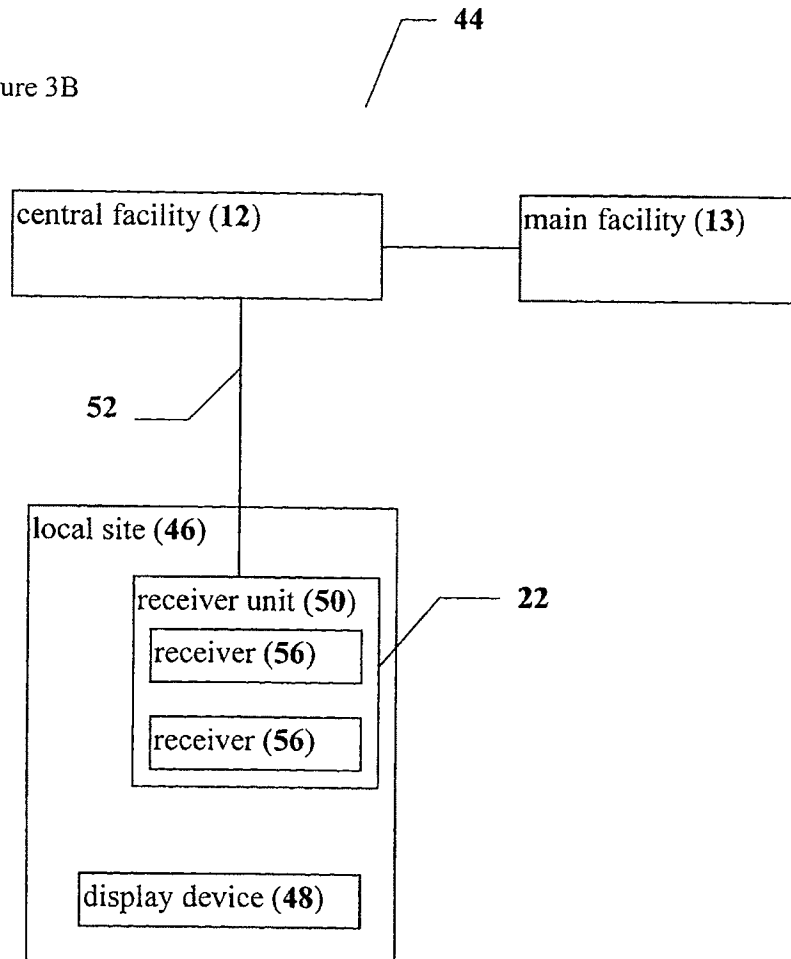


Figure 3B



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/05436

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :H04N 7/173

US CL :709/219; 348/9, 12; 455/5.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 709/217, 218, 219; 348/6, 7, 9, 10, 12; 455/3.1, 4.1, 4.2, 5.1, 6.1, 6.2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y, E | US 6,075,551 A (BEREZOWSKI et al) 13 June 2000, see whole document. | 1-39 |
| Y, P | US 6,029,045 A (PICCO et al) 22 February 2000, see whole document. | 1-39 |
| A | US 5,761,601 A (NEMIROFSKY et al) 02 June 1998, see whole document. | 1-39 |

☐ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

| | | | |
|--|---|----|--|
| * Special categories of cited documents: | | *T | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| *A | document defining the general state of the art which is not considered to be of particular relevance | *X | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| *E | earlier document published on or after the international filing date | *Y | document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| *L | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | *Z | document member of the same patent family |
| *O | document referring to an oral disclosure, use, exhibition or other means | | |
| *P | document published prior to the international filing date but later than the priority date claimed | | |

Date of the actual completion of the international search

18 JUNE 2000

Date of mailing of the international search report

25 JUL 2000

 Name and mailing address of the ISA/US
 Commissioner of Patents and Trademarks
 Box PCT
 Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

JOHN W. MIL

Telephone No. (703) 308-0000